

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Previously Presented) A system for monitoring the operation of computer programs by collecting software related events relating to the performance of a plurality of target programs, each program running on a respective target processor, and each target processor being located on a separate system bus, the system comprising:

a plurality of event collection cards, each receiving software related events from a respective one of the plurality of target programs, wherein each of the plurality of event collection cards and the respective one of the target programs are installed on the same system bus, and wherein each event collection card includes:

a time stamp clock for providing a time stamp when each event is received;

an event memory for storing the received events;

a sync interface unit for receiving a sync signal;

a sync control unit for synchronizing the time stamp clock to the sync signal received by the sync interface; and

a collection control unit for time stamping the collected events according to the time stamp clock synchronized to the sync signal, for storing the time stamped events in the event memory, and for sending the collected software related events to a host computer that monitors the performance of the target programs based on the collected events.

Claim 2. (Original) The system of claim 1, wherein the sync interface unit periodically receives the sync signal, and wherein the sync control unit periodically synchronizes the time stamp clock by setting the time stamp clock to a preset value upon receipt of the sync signal.

Claim 3. (Original) The system of claim 2, wherein the sync control unit increments the time stamp clock to the preset value when the time stamp clock has not reached the preset value when the sync signal is received.

Claim 4. (Original) The system of claim 2, wherein the sync control unit stops the time stamp clock when the time stamp clock reaches the preset value before the sync signal is received.

Claim 5. (Original) The system of claim 1, wherein one of the plurality of event collection cards operates as a master card and at least one other event collection card operates as a slave card, and wherein:

the sync control unit of the at least one slave card synchronizes the time stamp clock of the slave card to the time stamp clock of the master card.

Claim 6. (Original) The system of claim 5, wherein:
the collection control unit receives a start request requesting that the collection control unit begin collecting events; and
the sync control unit determines, when the collection control unit receives the start signal, whether the event collection card is a master card or a slave card, and wherein the sync control unit transmits a sync signal to the slave card only when the event collection card is a master card.

Claim 7. (Original) The system of claim 1, wherein the plurality of event collection cards are daisy-chain connected to one another.

Claim 8. (Original) The system of claim 1, wherein the sync interface unit receives the sync signal from a time-based global positioning system.

Claim 9. (Original) The system of claim 1, wherein the sync interface unit receives the sync signal from an atomic clock.

Claim 10. (Previously Presented) The system of claim 1, wherein the event collection card sends the collected events to the host computer for processing, and wherein the event collection card further includes:

a bus interface unit, connected to an event collection bus, for receiving events from the target processor over the system bus, wherein the bus interface unit forwards the received events to the collection control unit over the event collection bus;

a processing unit, connected to a local bus, for sending the collected events to the host computer; and

a bus isolation unit for allowing the event collection bus and the local bus to operate in parallel.

Claim 11. (Original) The system of claim 10, wherein the bus isolation unit allows the processing unit to access the event memory via the local bus and the event collection bus.

Claim 12. (Original) The system of claim 1, wherein:
the collection control unit initializes the corresponding target processor prior to
collecting events by assigning an address range to the target processor, wherein the
target processor uses the assigned addresses when sending events to the event
collection card.

Claim 13. (Original) The system of claim 12, wherein:
the collection control unit determines an identification value by decoding the
address to which the respective target processor has sent the event, wherein the
identification value corresponds to the target program corresponding to the respective
target processor.

Claim 14. (Original) The system of claim 13, wherein:
the collection control unit time stamps the identification value and stores the time
stamped identification value in the event memory.

Claim 15. (Previously Presented) The system of claim 1, wherein the collection
control unit updates a memory count for each time stamped event stored in the event
memory, wherein the event collection card sends the collected events to the host
computer for processing, wherein the event collection card further includes:
a processing unit for sending the collected events to the host computer according
to the memory count.

Claims 16-27 (canceled)

Claim 28. (Previously Presented) In a system having a plurality of target programs, each program running on a respective target processor, and each target processor being located on a separate system bus, wherein each of a plurality of event collection cards and a respective one of the target programs are installed on the same system bus, wherein each event collection card performs a method for monitoring the operation of computer programs, comprising:

receiving software related events from the respective one of the plurality of target programs, each software related event relating to the performance of a respective target program;

storing the received events in an event memory;

receiving a sync signal;

synchronizing a time stamp clock to the received sync signal;

time stamping the collected events according to the time stamp clock synchronized to the sync signal;

storing the time stamped events in the event memory; and

sending the collected software related events to a host computer that monitors the performance of the target programs based on the collected events.

Claim 29. (Original) The method of claim 28, wherein:

the step of receiving the sync signal further includes the substep of periodically receiving the sync signal; and

the synchronizing step further includes the substep of periodically synchronizing the time stamp clock by setting the time stamp clock to a preset value upon receipt of the sync signal.

Claim 30. (Original) The method of claim 29, wherein the synchronizing step further includes the substep of:

incrementing the time stamp clock to the preset value when the time stamp clock has not reached the preset value when the sync signal is received

Claim 31. (Original) The method of claim 29, wherein the synchronizing step further includes the substep of:

stopping the time stamp clock when the time stamp clock reaches the preset value before the sync signal is received.

Claim 32. (Original) The method of claim 28, wherein one of the plurality of event collection cards operates as a master card and at least one other event collection card operates as a slave card, and wherein the synchronizing step further includes the substep of:

synchronizing the time stamp clock of a slave card to the time stamp clock of the master card.

Claim 33. (Original) The method of claim 32, further including the steps of:
receiving a start request requesting that the event collection card begin collecting events;

determining, when the event collection card receives the start signal, whether the event collection card is a master card or a slave card; and

transmitting a sync signal to the slave card only when the event collection card is a master card.

Claim 34. (Original) The method of claim 28, wherein the step of receiving the sync signal further includes the substep of:
receiving the sync signal from a time-based global positioning system.

Claim 35. (Original) The method of claim 28, wherein the step of receiving the sync signal includes the substep of:

receiving the sync signal from an atomic clock.

Claim 36. (Previously Presented) The method of claim 28, further including the steps of:

sending the collected events to the host computer for processing;
receiving events from the corresponding target processor over an event collection bus;
sending the collected events to the host computer using a local bus; and
allowing the event collection bus and the local bus to operate in parallel.

Claim 37. (Original) The method of claim 36, further comprising the step of:
initializing the corresponding target processor prior to collecting events by assigning an address range to the target processor, wherein the target processor uses the assigned addresses when sending events to the event collection card.

Claim 38. (Original) The method of claim 37, further comprising the step of:
determining an identification value by decoding the address to which the respective target processor has sent the event, wherein the identification value corresponds to the target program corresponding to the respective target processor.

Claim 39. (Original) The method of claim 38, wherein the time stamping step further includes the substeps of:

time stamping the identification value; and

storing the time stamped identification value in the event memory.

Claim 40. (Previously Presented) The method of claim 28, further including the steps of:

updating a memory count for each time stamped event stored in the event memory; and

sending the collected events to the host computer according to the memory count.

Claim 41. (New) The system of claim 1, wherein the time stamp clock of each of the plurality of event collection cards are synchronized together.

Claim 42. (New) The system of claim 1, comprising:
a clock source for sending the sync signal to each of the plurality of event collection cards.

Claim 43. (New) The method of claim 28, wherein the time stamp clock of each of the plurality of event collection cards are synchronized together.

Claim 44. (New) The method of claim 28, comprising:
sending the sync signal to each of the plurality of event collection cards.